



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Bhat et al.

Serial No. 10/688,691

Filed: October 17, 2003

For: NUCLEOSIDE DERIVATIVES AS INHIBITORS  
OF RNA-DEPENDENT RNA VIRAL  
POLYMERASE

Art Unit: \_\_\_\_\_

Examiner: \_\_\_\_\_

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR 1.97

Sir:

1. In compliance with 37 C.F.R. 1.97, submitted on the attached form herewith is a list of patents, publications or other information which are requested to be made of record in this application. This Information Disclosure Statement is not an admission that any patent, publication or other information referred to herein is "prior art" for this invention. In accordance with 37 C.F.R. 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b).

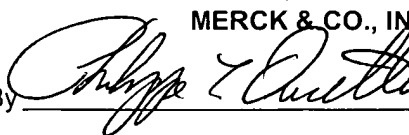
2. In accordance with 37 C.F.R. 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.

3. Applicants respectfully request that the Examiner initial the attached form after reviewing the pertinence of each reference.

4. Pursuant to the waiver by the Office of the requirement under 37 CFR 1.98 (a)(2)(i) dated July 11, 2003, if the filing date of this application is after June 30, 2003, copies of each cited U.S. patent and each U.S. patent application publication are not enclosed herewith.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date appearing below.

MERCK &amp; CO., INC.

By  Date Jan 14, 2004



## INFORMATION DISCLOSURE STATEMENT

5. Pursuant to 37 C.F.R. 1.98(d), copies of references listed on the attached form that were submitted to or cited by the Office in a related application upon which the instant application relies for an earlier filing date under 35 U.S.C. 120 are not enclosed. Related application(s) in which references were submitted to or cited by the Office are as follows:

RELATED APPLICATION		
U. S. SERIAL NUMBER	FILING DATE	MERCK CASE
10/052,318	January 18, 2002	20717Y

If this is inconvenient, additional copies will be submitted upon request.

6. In accordance with 37 C.F.R. 1.97, (check one)

- ☒ the attached information is filed within three months of the filing date of the captioned case.
- ☐ the attached information is filed more than three months after the filing date but prior to the mailing of a first Office Action on the merits.
- ☐ the attached information is being filed more than three months after the filing date and after the mailing of a first Office Action on the merits, but before the mailing date of a Final Action or Notice of Allowance. The enclosed authorization is therefore given to charge Deposit Account No. 13-2755 for the fee required under 37 C.F.R. 1.17(p).
- ☐ the undersigned certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement.
- ☐ the undersigned certifies that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated under 37 C.F.R. 1.56(c) more than three months prior to the filing of this Statement.

Respectfully submitted,

By: Philippe L. Durette

Attorney \_\_\_\_\_ For Applicant(s)

Reg. No. 35,125

MERCK & CO., INC.

Patent Dept., RY60-30

P.O. Box 2000

Rahway, N.J. 07065-0907

(732)594-4568

Date: January 14, 2004

## 6

SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450. Computer generated form "IDS Form" (IDS Folder), Merck & Co., Inc., 09/05/2003

**COMPLETE IF KNOWN**

<b>Application Number</b>	10/688,691
---------------------------	------------

<b>Filing Date</b>	October 17, 2003
--------------------	------------------

<b>First Named Inventor</b>	Steven S. Carroll, et al.
-----------------------------	---------------------------

### Group Art Unit

Examiner Name

Attorney Docket Number	20717YCA
------------------------	----------

2

of

6

U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Office	Number	Kind Code (if known)		
	18	PCT	WO 02/048165 A2		PHARMASSET LTD.	06/20/2002
	19	PCT	WO 02/048165 A3		PHARMASSET LTD.	06/20/2002
	20	PCT	WO 02/069903 A2		BIOCRIST PHARMACEUTICALS, INC.	09/12/2002
	21	PCT	WO 02/069903 A3		BIOCRIST PHARMACEUTICALS, INC.	09/12/2002
	22	PCT	WO 02/100354 A2		RIBAPHARM INC.	12/19/2002
	23	PCT	WO 02/100354 A3		RIBAPHARM INC.	12/19/2002
	24	PCT	WO 02/100415 A2		F. HOFFMAN-LA ROCHE AG	12/19/2002
	25	PCT	WO 03/000200 A2		PHARMASSET LTD.	01/03/2003
	26	PCT	WO 03/000713 A1		GLAXO GROUP LIMITED	01/03/2003
	27	PCT	WO 03/015798 A1		TOYAMA CHEMICAL CO.,LTD.	02/27/2003

Examiner  
Signature

Date  
Considered

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450. Computer generated form "IDS Form" (IDS Folder), Merck & Co., Inc., 09/05/2003

**COMPLETE IF KNOWN**

Attorney Docket Number	20717YCA
------------------------	----------

(use as many sheets as necessary)

3

of

6

Attorney Docket Number	20717YCA
------------------------	----------

[illegible]

Examiner Initials*	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Office	Number	Kind Code (if known)		
	28	PCT	WO 03/062255		RIBAPHARM INC.	07/31/2003
	29	PCT	WO 03/051899		RIBAPHARM INC.	06/26/2003
	30	PCT	WO 03/051898		RIBAPHARM INC.	06/26/2003
	31	PCT	WO 03/051897		RIBAPHARM INC.	06/26/2003
	32	PCT	WO 03/051896		RIBAPHARM INC.	06/26/2003
	33	PCT	WO 03/051881		RIBAPHARM INC.	06/26/2003
	34	PCT	WO 03/026589 A2		IDENIX (CAYMAN) LIMITED	04/03/2003
	35	PCT	WO 03/026675 A1		IDENIX (CAYMAN) LIMITED	04/03/2003
	36	PCT	WO 02/094289 A1		F. HOFFMANN-LA ROCHE AG	11/28/2002
	37	PCT	WO 03/093290 A2		GENELABS TECHNOLOGIES, INC.	11/13/2003

Date Considered

SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450. Computer generated form "IDS Form" (IDS Folder), Merck & Co., Inc., 09/05/2003

## STATEMENT BY APPLICANT

**JAN 20 2004**

(use as many sheets as necessary)

4

of

6

**Application Number**

10/688,691

**Filing Date**

October 17, 2003

**First Named Inventor**

Steven S. Carroll, et al.

## Group Art Unit

Examiner Name

Attorney Docket Number

20717YCA

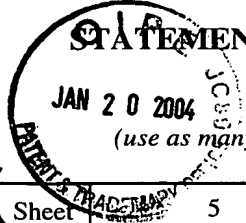
[illegible][illegible]

Examiner  
Signature

Date  
Considered

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450. Computer generated form "IDS Form" (IDS Folder), Merck & Co., Inc., 09/05/2003

Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			<b>COMPLETE IF KNOWN</b>		
			Application Number	10/688,691	
			Filing Date	October 17, 2003	
			First Named Inventor	Steven S. Carroll, et al.	
			Group Art Unit		
			Examiner Name		
Sheet	5	of	6	Attorney Docket Number	20717YCA

NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
	39	Walton, E. et al., "Branched-Chain Sugar Nucleosides. V. Synthesis and Antiviral Properties of Several Branched-Chain Sugar Nucleosides", J. Med. Chem., Vol. 12, pp. 306-309 (1969)
	40	Matsuda, A. et al., "Radical Deoxygenation of Tert-Alcohols In 2'-Branched-Chain Sugar Pyrimidine Nucleosides: Synthesis and Antileukemic Activity of 2' -Deoxy-2' (S)-Methylcytidine", Chem. Pharm. Bull., Vol. 35, pp. 3967-3970 (1987)
	41	Matsuda, A. et al., "Alkyl Addition Reaction of Pyrimidine 2'-Ketonucleosides: Synthesis of 2' -Branched-Chain Sugar Pyrimidine Nucleosides (Nucleosides and Nucleotides. LXXXI), Chem. Pharm. Bull., Vol. 36, pp. 945-953 (1988)
	42	Murai, Y. et al., "A Synthesis and an X-Ray Analysis of 2'-C-, 3'-C- and 5'-C-Methylsangivamycins", Heterocycles, Vol. 33, pp. 391-404 (1992)
	43	Limori, T. et al., "2'-C-, 3'-C- and 5'-C-Methylsangivamycins: Conformational Lock with the Methyl Group", Tetrahedron Letters, Vol. 3, No. 49, pp. 7273-7276 (1991)
	44	Wolfe, M. et al., "A Consise Synthesis of 2'-C-Methylribonucleosides", Tetrahedron Letters, Vol. 36, No. 42, pp. 7611-7614 (1995)
	45	Harry-O'kuru, R. et al., "A Short, Flexible Route toward 2'-C-Branched Ribonucleosides", J. Org. Chem., Vol. 62, pp. 1754-1759 (1997)
	46	Gallo, M. et al., "Synthesis of 2'-Modified Nucleotides", Molecules, Vol. 5, pp. 727-729 (2000)
	47	Beigelman, L. et al., "New Synthesis of 2'-C-Methylnucleosides Starting From D-Glucose and D-Ribose", Carbohydrate Research, Vol. 166, pp. 219-232 (1987)
	48	Anzai, K. et al, "A New Antibiotic, Tubercidin", The Journal of Antibiotics., Vol. X, No. 5, pp. 201-205 (1957)
	49	Tolman, R. et al., "Pyrrolopyrimidine Nucleosides. III. The Total Synthesis of Toyocamycin, Sangivamycin, Tubercidin, and Related Derivatives", Journal of the American Chemical Society, Vol. 91, No. 8, pp. 2102-2108 (1969)
	50	Tolman, R. et al., "Pyrrolo[2,3-d]pyrimidine Nucleoside Antibiotics. Total Synthesis and Structure of Toyacmycin, Unamycin B, Vengicide, Antibiotic E-212, and Sangivamycin (BA-90212)", Journal of the American Chemical Society, Vol. 90, No. 2, pp. 24-526 (1968)
	51	Siddiqi, S. et al., "Search for New Purine- and Ribose-Modified Adenosine Analogues as Selective Agonists and Antagonists at Adenosine Receptors", J. Med. Chem., Vol. 38, pp. 1174-1188 (1995)
	52	Franchetti, P. et al., "2'-C-Methyl Analogues of Selective Adenosine Receptor Agonists: Synthesis and Binding Studies", J. Med. Chem., Vol. 41, pp. 1708-1715 (1988)
	53	Kalinichenko, E. et al, "Substrate Specificity of Adenosine Deminase. Role of Methyl Groups at the 2'-, 3'-, and 5'-Carbon Atoms of Adenosine", Bioorganicheskaya Khimiya, Vol. 14, No. 9, pp. 1157-1161 (1988)

Examiner Signature	Date Considered
--------------------	-----------------

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450. Computer generated form "IDS Form" (IDS Folder), Merck & Co., Inc., 09/05/2003

## STATEMENT BY APPLICANT

JAN 20 2004

(use as many sheets as necessary)

Sheet

6

of

6

**Application Number**

10/688,691

**Filing Date**

October 17, 2003

**First Named Inventor**

Steven S. Carroll, et al.

### Group Art Unit

Examiner Name

Attorney Docket Number

20717YCA

Examiner  
Initials\*Cite  
No.

**Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.**

54

Wolf, et al., "New 2'-C-Branched-Chain Sugar Nucleoside Analogs with Potential Antiviral or Antitumor Activity", *Synthesis*, pp. 773-778 (August 1992)

Examiner  
Signature

Date  
Considered

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450. Computer generated form "IDS Form" (IDS Folder), Merck & Co., Inc., 09/05/2003